

PROCEEDINGS
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BIOLOGICAL SOCIETY OF WASHINGTON

TWO NEW SPECIES OF *ARICIDEA* (POLYCHAETA,
PARAONIDAE) FROM VIRGINIA AND FLORIDA, AND
REDESCRIPTION OF *ARICIDEA FRAGILIS* WEBSTER

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This study of paraonid polychaetes is based, for the most part, on material from two sources: two species from Chesapeake Bay, off Eastern shore, Virginia, collected by Dr. Marvin L. Wass of the Virginia Institute of Marine Science, and two species from the Gulf of Mexico, Seahorse Key, Cedar Keys, Florida, collected by Mr. John L. Taylor of the Fish and Wildlife Service, St. Petersburg Beach, Florida. One new species of *Aricidea* from each collection is described, and I have taken this opportunity to supplement the descriptions of two of the previously known species of that genus, including that of the type-species, *Aricidea fragilis* Webster.

The following material of *Aricidea* (*Aricidea*) is described:

- A. fragilis* Webster from North Carolina,
South Carolina, and Florida
- A. taylora*, new species from Florida
- A. jeffreysii* (McIntosh) from Virginia
- A. wassi*, new species from Virginia

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Family PARAONIDAE Cerruti
Genus *Aricidea* Webster, 1879

Type species: *A. fragilis* Webster, 1879; by monotypy. Gender: feminine.

Diagnosis: Body long, slender, threadlike, cylindrical, composed of numerous segments. Prostomium subconical, with dorsal median antenna and pair of nuchal slits. First or buccal segment achaetous, more or less fused with prostomium and ventrally forming lateral lips of mouth. Ventral part of first two setigerous segments forming a posterior lip.

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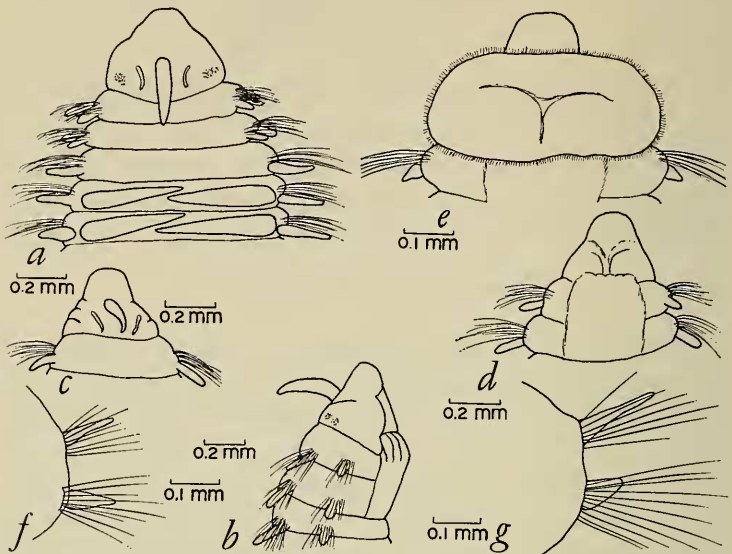


FIG. 1. *Aricidea fragilis*: a, Dorsal view anterior end; b, lateral view anterior end of another specimen; c, dorsal view anterior end of another specimen; d, same, ventral view; e, ventral view anterior end of specimen with ciliated, globular proboscis extended; f, parapodium from setiger 1; g, same, from setiger 2.

Parapodia biramous, lacking distinct setal lobes, having simple smooth capillary setae, with digitiform to filiform postsetal notopodial lobes (sometimes referred to as dorsal cirri), and with or without postsetal neuropodial lobes on some anterior segments (sometimes referred to as ventral cirri). Branchiae simple, paired, straplike, ciliated, dorsal to notopodia and turned medially on dorsum, absent from few anterior segments (3-5) and from long posterior region (6 to 60 pairs of branchiae). Pygidium with 2-3 filiform anal cirri. Anterior end of digestive tube evaginable as a cylindrical, globular, or feebly lobed proboscis.

Subgenus *Aricidea*

Diagnosis: With only capillary setae in notopodia, without modified setae in some posterior notopodial segments. With or without modified setae in posterior neuropodia (crochets, acicular setae or setae with mucronate tips).

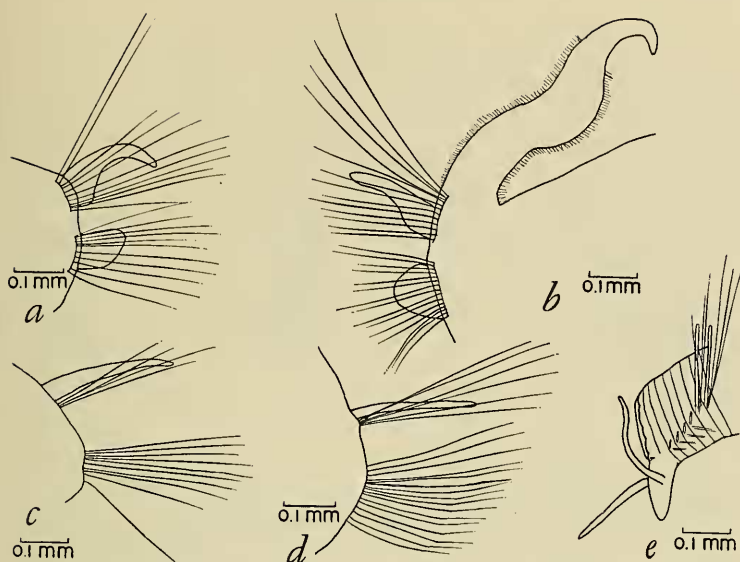


FIG. 2. *Aricidea fragilis*: a, Parapodium from setiger 3; b, same, from middle branchial segment; c, same, from anterior postbranchial segment; d, same, from posterior postbranchial segment; e, lateral view posterior end.

Aricidea (Aricidea) fragilis Webster

Aricidea fragilis Webster, 1879: 255, Pl. 9, Figs. 127–132.—Hartman, 1944: 315, Pl. 27, Figs. 4, 5; 1945: 30, Fig. 3; 1957: 317, Pl. 43, Fig. 3.—Not McIntosh, 1885: 354 (perhaps = *A. albatrossae* Pettibone, 1957: 354).—Not Fauvel, 1936: 65 (= *A. fauveli* Hartman, 1957: 318).

Material examined: FLORIDA, Seahorse Key, Cedar Keys, John L. Taylor, coll., 1960: West Lagoon, March 5 (9 spec.), Gardners Point, sand, September 9 (6 spec.), West Point, silty sand, October 9 (8 spec.). SOUTH CAROLINA, off dock, Bears Bluff Laboratories, Wadmalaw Island, 24 March 1961, G. Robert Lunz, coll. (1 spec.). NORTH CAROLINA, Beaufort, 1951, Evelyn Cole, coll. (18 spec.).

Description: Length to 100 mm, width to 2 mm, segments to 300. Body long, slender, subcylindrical, widest and flattened dorsoventrally in branchial region, tapering gradually posteriorly. Prostomium and achaetous buccal segment fused, subcordiform, widest posteriorly, rounded anteriorly, variable in shape; median antenna short, subulate, extending at most to setiger 2; pair of nuchal slits lateral to antenna;

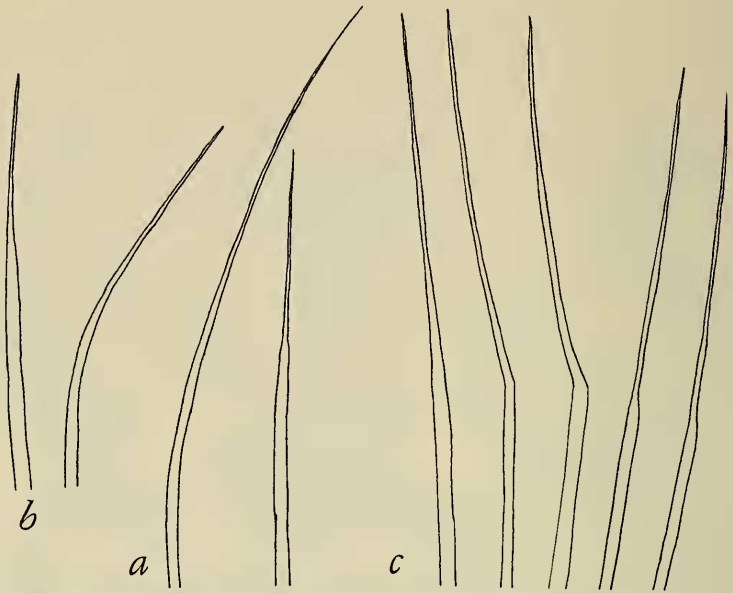


FIG. 3. *Aricidea fragilis*: a, Notosetae from branchial segment; b, neurosetae from branchial segment; c, neurosetae from posterior post-branchial segment.

sometimes with pigmented areas lateral to nuchal organs (Fig. 1, a, b; referred to as eyes by Webster); pair of deep-set small eyes anteriorly (usually not visible when preserved). Lateral lips of mouth formed by achaetous buccal segment (fused to prostomium); ventral area of first two setigerous segments forming posterior lip of mouth (no separate achaetous segment as shown by Hartman, 1944, Pl. 27, Fig. 4). When extended, proboscis a short, bulbous, ciliated sac (Fig. 1, e).

Branchiae beginning on setiger 4, 50-60 pairs, nearly covering dorsum in branchial region. Notopodial postsetal lobes (= dorsal cirri of Webster) short, digitiform on first two setigers (Fig. 1, f, g), longer and wider basally on setiger 3 (Fig. 2, a) and on branchial setigers (Fig. 2, b), digitiform to filiform on postbranchial setigers (Fig. 2, c, d). Neuropodial postsetal lobes (= ventral cirri of Webster) subequal in length to notopodial postsetal lobes on first setiger; shorter, conical to oval from setiger 2 to about setiger 40; absent from about setiger 40 posteriorly. Notosetae of anterior segments forming thick bundles; notosetae long, simple, thickened basally, tapering to capillary tips (Fig. 3, a); posterior notopodial bundles composed of few (4-8), delicate, capillary notosetae. Neurosetae similar to notosetae in anterior region

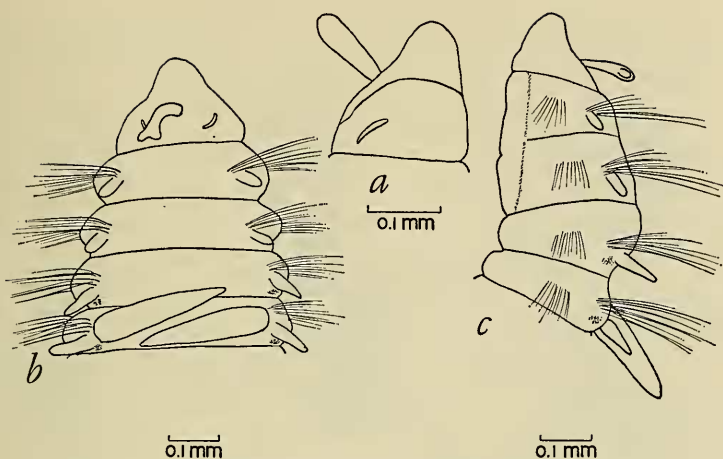


FIG. 4. *Aricidea taylora* new species: a, Lateral view anterior end of holotype; b, dorsal view anterior end paratype with bifid antenna; c, same, lateral view.

(Fig. 3, b); ventral neurosetae of posterior region stouter basally, tapering rather abruptly about midlength, sometimes partially or completely fracturing at this midpoint (Fig. 3, c; referred to as pseudoarticulate setae by Hartman). Pygidium a conical ventral lobe with pair of lateral, filiform anal cirri; anus subterminal and dorsal (Fig. 2, e).

Distribution: Chesapeake Bay (off Eastern shore, Virginia) to Gulf of Mexico (Cedar Keys, western Florida), low intertidal, in mud and silty sand.

Aricidea (Aricidea) taylora, new species

Material examined: FLORIDA, Seahorse Key, Cedar Keys, West Lagoon, in silty sand, 5 March 1960, John L. Taylor, coll. (mixed with *Aricidea fragilis* Webster). The types are deposited in the United States National Museum, holotype USNM 31494, three paratypes USNM 31495.

Description: Length to 30 mm, width to 0.5 mm, segments to 180 (smaller and slenderer than *A. fragilis*). Body long, slender, subcylindrical, widest and flattened dorsoventrally in branchial region, tapering gradually posteriorly. Prostomium and achaetous buccal segment fused, subcordiform, widest posteriorly, rounded anteriorly; median antenna short, extending at most to first setiger, clubbed (one paratype with distal tip bifid, evidently an anomaly, Fig. 4, b, c); pair of nuchal slits lateral to antenna. Lateral lips of mouth formed by achaetous

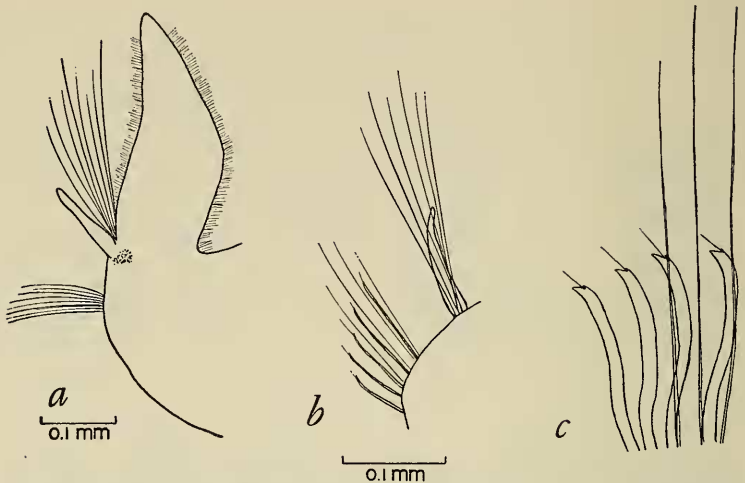


FIG. 5. *Aricidea taylori* new species: a, Parapodium from branchial segment; b, parapodium from posterior postbranchial segment; c, neurosetae from same, enlarged.

buccal segment (fused to prostomium); ventral area of first two setigerous segments forming posterior lip of mouth.

Branchiae beginning on setiger 4, about 28 pairs (26–29), thicker basally, gradually tapering distally, ciliated except for distal tips. Notopodial postsetal lobes short, cylindrical on first two setigerous segments, longer, subulate on setiger 3 and on branchial setigers, becoming filiform on postbranchial setigers. Neuropodial postsetal lobes absent. Notopodia and neuropodia with thick bundles of setae in several rows in anterior prebranchial and branchial setigers; notosetae and neurosetae thickened basally, tapering to capillary tips; notopodia of postbranchial setigers with small bundles of notosetae composed of few (about 7), slender, capillary notosetae; anterior postbranchial neuropodia with bundle of about 10 capillary setae and 2 hooks (hooks beginning on about setiger 35); posterior neuropodia bearing neurosetae of two kinds: few (3–4), long, slender, capillary neurosetae, and few (4–6) bidentate hooks with slender arista emerging from notch between teeth. Pygidium subconical, with pair of lateral, filiform anal cirri. Color (preserved): yellowish, with reddish pigmented areas in bases of notopodia of branchial segments.

Distribution: Gulf of Mexico (Cedar Keys, western Florida), low intertidal, in silty sand.

Remarks: Of the species of *Aricidea* (*Aricidea*) which lack neuropodial postsetal lobes, *A. taylori* resembles most closely *A. brevicornis*

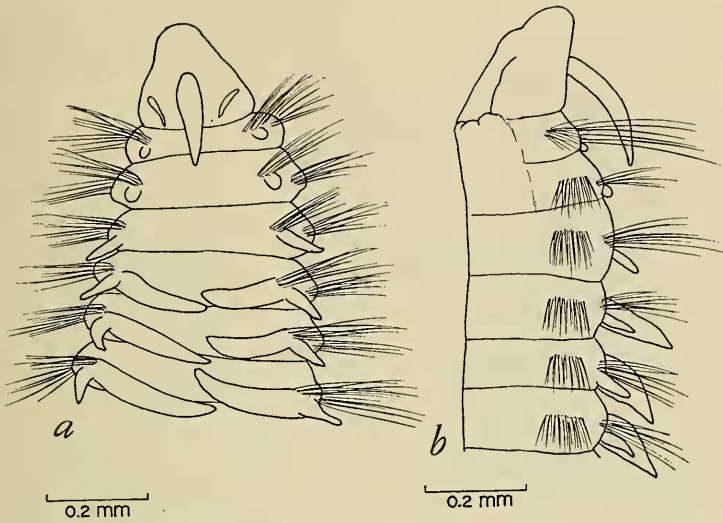


FIG. 6. *Aricidea jeffreysii*: a, Dorsal view anterior end; b, same, lateral view.

Hartmann-Schröder (1962: 135; Peru, 9 meters) and *A. capensis* Day (1961: 481; South Africa, 10 meters). The three species have branchiae beginning on setiger 4 and their posterior neuropodial hooks are bidentate. They differ in the following characters:

	<i>A. brevicornis</i>	<i>A. capensis</i>	<i>A. taylori</i>
Median prostomial antenna	Very short, globular, shorter than prostomium	Moderately long, tapering, extending to setiger 3, faintly annulate distally	Short, clubbed, extending to first setiger
Branchiae	6 pairs	14 pairs	26–29 pairs
Posterior neuropodial hooks	Bidentate, without aristae	Bidentate, with aristae arising from concave sides	Bidentate, with aristae arising terminally between teeth

The species is named for John L. Taylor, to whom I am indebted for the specimens.

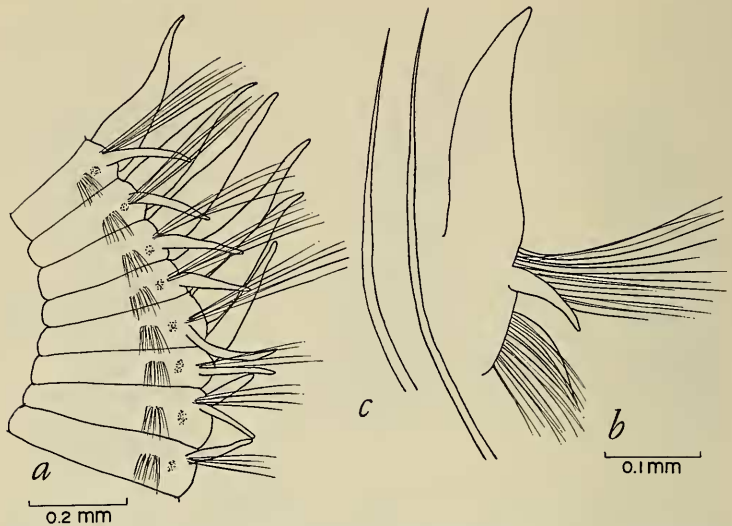


FIG. 7. *Aricidea jeffreysii*: a, Lateral view setigers 17-24 (branchial 14-20 and first postbranchial segment); last pair branchiae small; interramal brownish areas shown; b, parapodium from branchial region; c, notosetae from same.

Aricidea (Aricidea) jeffreysii (McIntosh)

Scolecoplepis (?) *jeffreysii* McIntosh, 1879: 506, Pl. 65, Figs. 13, 14.

Aricidea jeffreysii Pettibone, 1963: 305, Fig. 80, a-e.—Day, 1963: 423.

Material examined: VIRGINIA, off Eastern shore in Chesapeake Bay, Marvin L. Wass, coll.: 37° 10' N., 74° 55' W., 24 fms., sand and shell, 25 August 1962 (3 spec.); 37° 34' N., 75° 55' W., 8 fms., mud and sand, 17 July 1963 (2 spec.); Hampton Bar, James River, 5 fms., silt, 13 November 1963 (1 spec.).

Description: Length to 20 mm, width to 1.5 mm, segments to 120. Body long, slender, subcylindrical, slightly flattened dorsoventrally in branchial region, tapering gradually posteriorly. Prostomium and achaetous buccal segment fused, subconical, widest posteriorly, rounded anteriorly; median antenna short, subulate, extending at most to setiger 2; pair of nuchal slits lateral to antenna. Lateral lips of mouth formed by achaetous buccal segment (fused to prostomium); ventral area of first two setigerous segments forming posterior lip of mouth. When extended, proboscis a short cylindrical ciliated sac.

Branchiae beginning on setiger 4, 11-22 pairs, nearly covering dorsum in branchial region. Notopodial postsetal lobes short, cylindrical on first

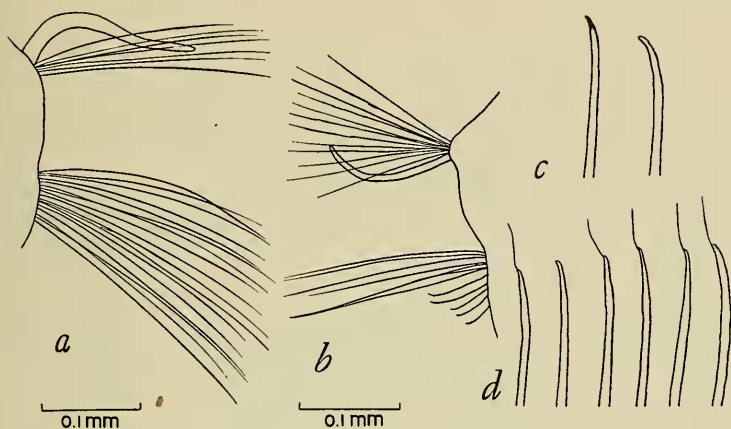


FIG. 8. *Aricidea jeffreysii*: a, Parapodium from anterior postbranchial region; b, same, from posterior postbranchial region; c, neuropodial hook from same; d, neurosetae with mucronate tips, from far posterior region.

two setigers, longer, subulate on setiger 3 and on branchial setigers, becoming filiform on postbranchial segments. Neuropodial postsetal lobes absent. Notopodia and neuropodia with thick bundles of setae in several rows in anterior prebranchial and branchial setigers; notosetae and neurosetae thickened basally, tapering to capillary tips; notopodia of postbranchial setigers with small bundles of slender, capillary notosetae; anterior postbranchial neuropodia with spreading bundles of long capillary neurosetae; more posteriorly, ventral capillary neurosetae replaced by unidentate hooks (4-8 in number; sometimes with faint hood or sheath; Fig. 8, c); in far posterior region, some of lower hooks with mucronate tips (Fig. 8, d). Pygidium subconical, with pair of lateral anal cirri. Color (preserved): variable, usually with rusty red or brownish pigment scattered on prostomium and on body, sometimes concentrated in dorsolateral interramal spots (Fig. 7, a).

Distribution: Davis Strait to Chesapeake Bay (off Eastern shore, Virginia), Ireland, Denmark, Mediterranean, South Africa, western Canada (Gulf of Georgia). In 1 to 1,060 fms.

Aricidea (Aricidea) wassi, new species

Material examined: VIRGINIA, off Eastern shore in Chesapeake Bay, Marvin L. Wass, coll.: 37° 34' N., 75° 55' W., 8 fms., mud and sand, July 1963 (type-locality, 10 spec.); 37° 18' N., 75° 55' W., 14 fms., sand, 23 January 1963 (3 spec.); 37° 10' N., 74° 55' W., 24 fms., sand

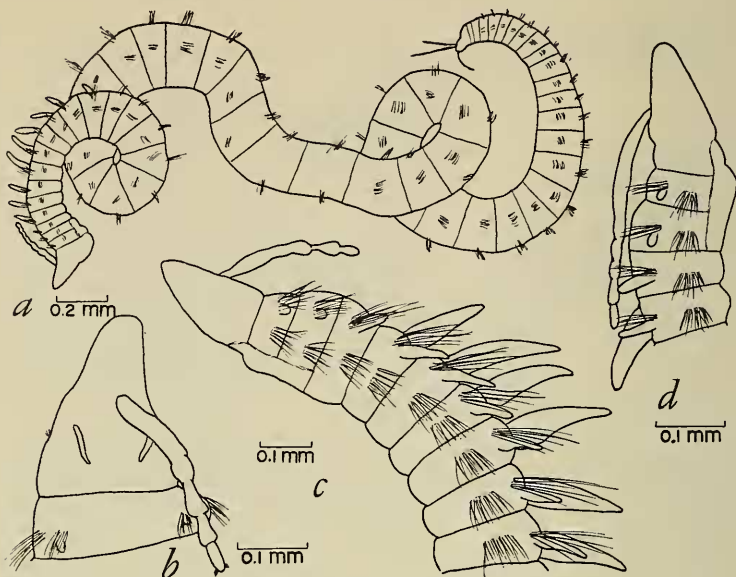


FIG. 9. *Aricidea wassi* new species: a, Lateral view of complete specimen of small paratype (about 65 setigers); b, dorsal view anterior end; c, lateral view anterior end; d, same, from another specimen with longer antenna.

and shells, 25 August 1962 (1 spec.). The types are deposited in the United States National Museum, holotype 31493, paratypes 31492.

Description: Length to 30 mm, width to 0.5 mm, segments to 200. Body elongate, slender, threadlike, widest anteriorly, gradually tapering posteriorly. Prostomium and achaetous buccal segment fused, elongate, subconical, widest posteriorly, rounded anteriorly; median antenna long, extending to setiger 3-5, distinctly jointed distally with 3-6 distal joints, indistinctly jointed basally; pair of nuchal slits posterior and lateral to antenna. Lateral lips of mouth formed by achaetous buccal segment (fused to prostomium); ventral area of first two setigerous segments forming posterior lip of mouth.

Branchiae beginning on setiger 4, 9 (small specimen) to 18 (larger specimen) pairs, wider basally, tapering distally. Notopodial postsetal lobes small, bulbous on first two setigers, longer, cylindrical on setiger 3, digitiform on branchial segments, becoming filiform posteriorly. Neuro-podial postsetal lobes absent. Notopodia and neuropodia with thick bundles of setae in several rows in anterior prebranchial and branchial setigers; notosetae and neurosetae thickened basally, tapering to capil-

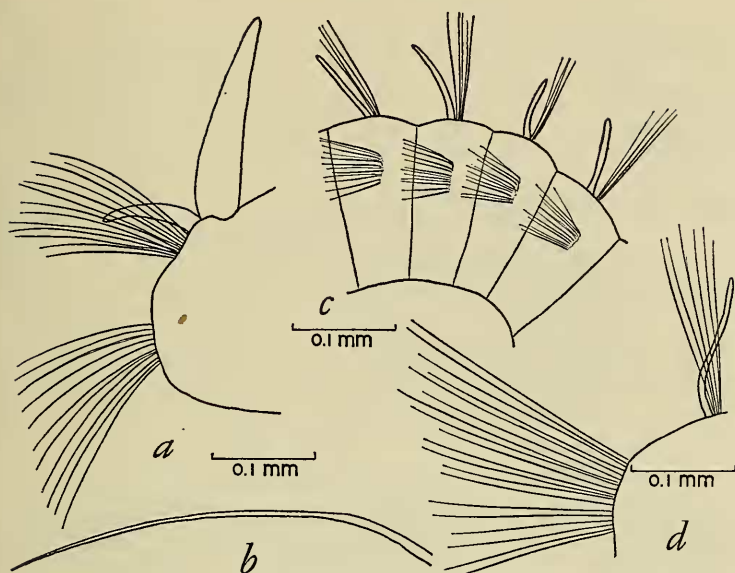


FIG. 10. *Aricidea wassi* new species: a, Parapodium from branchial region; b, lower neuroseta from same; c, lateral view few segments from anterior postbranchial region; d, parapodium from same.

lary tips; notopodia of postbranchial setigers with small bundles of notosetae composed of slender, capillary notosetae; anterior postbranchial neuropodia with spreading bundles of long capillary neurosetae; more posteriorly, lower capillary neurosetae replaced by unidentate hooks (5-6 in number) with long aristae emerging from their concave sides, hooks beginning about setiger 22 (small specimen) to setiger 40 (larger specimen). Pygidium bulbous ventrally, with three filiform anal cirri. Color (preserved): white or pinkish.

Distribution: Chesapeake Bay (off Eastern shore, Virginia), 8 to 24 fathoms, in mud and sand with shells.

Remarks: Of the species of *Aricidea* (*Aricidea*) which lack neuropodial postsetal lobes, *A. wassi* resembles most closely *A. minuta* Southward (1956: 269; Isle of Man, 34 fms.) and *A. longobranchiata* Day (1961: 482; South Africa, 3-48 fms.). In the three species, the branchiae begin on setiger 4 and the posterior neuropodial hooks are entire and with aristae arising from their concave sides. They differ in the following characters:

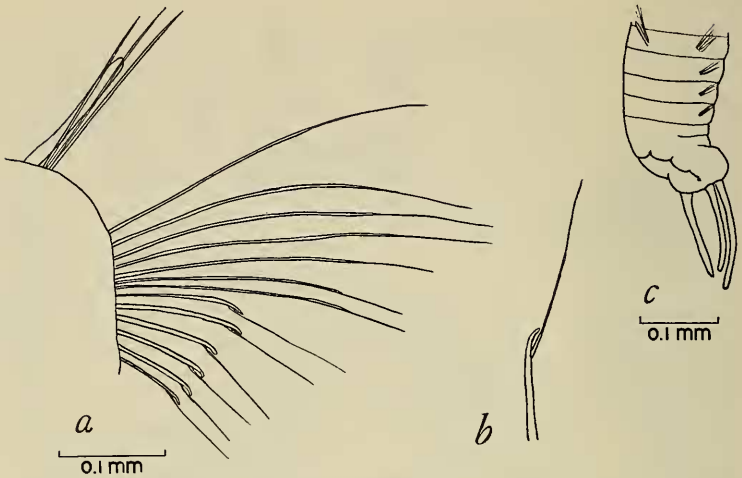


FIG. 11. *Aricidea wassi* new species: a, Parapodium from posterior postbranchial region; b, lower neuroseta from same; c, lateral view posterior end.

	<i>A. minuta</i>	<i>A. longobranchiata</i>	<i>A. wassi</i>
Branchiae	9-12 pairs, of uniform length	18 pairs, last 2 or 3 pairs greatly elongated	9-18 pairs, of uniform length, last pair shorter
Median prostomial antenna	Short, extending to first setiger, not jointed	Long, extending to setiger 5, smooth, not jointed	Long, extending to setiger 3-5, distinctly jointed

The species is named for Marvin L. Wass, to whom I am indebted for these specimens, as well as many other interesting polychaetes from Chesapeake Bay.

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